

1011329



PATENT SPECIFICATION

DRAWINGS ATTACHED

1011329

Date of filing Complete Specification: Feb. 21, 1964.

Application Date: Jan. 22, 1963.

No. 2625/63.

Complete Specification Published: Nov. 24, 1965.

© Crown Copyright 1965.

Index at acceptance:—B7 T (B2C2X3, B2C2X7, B2G)

Int. Cl.:—B 61 g

COMPLETE SPECIFICATION

Improvements in and relating to Vehicle Drawbar Pins

I, FRANCIS HUMPHREY COOKE, a British Subject, of 6, Rosemaund, Preston Wynne, Hereford, do hereby declare the invention, for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

This invention relates to vehicle drawbar pins, in particular, drawbar pins for use in securing trailers or other implements towed behind an agricultural tractor.

The invention consists in a vehicle drawbar pin comprising an elongated body having a head at one end, a retaining member secured to the other end and movable into and out of alignment with the body portion, and resilient biasing means tending to hold the retaining member out of alignment with the body portion.

The invention also consists in a vehicle drawbar pin comprising an elongated body having a head at one end and a slotted retaining plate secured to the other end of the body, the retaining plate being movable into a first position in alignment with and depending from, the body, and into a second position transversely of the body, and resilient biasing means tending to hold the retaining plate in the second position.

The invention also consists in a vehicle drawbar pin comprising a hook-shaped elongated body having a channel or groove formed in that end thereof remote from the hook, a slotted retaining plate located in said channel and retained therein by a retaining pin extending through the slot transversely of the channel and secured to said body, the retaining plate being movable between a first position in alignment with said body and a second position transversely of said body to permit the drawbar pin to be inserted through, and retained in, aligned apertures in a vehicle drawbar plate, the slot having at least one recess in a wall thereof for accommodating the retaining pin and the plate being resiliently biased in a direction

such as continuously to urge the wall of the slot into engagement with said retaining pin to resist relative movement between the plate and the body by extraneous forces.

In order that the invention can be fully understood one embodiment thereof will now be described, by way of example, with reference to the accompanying drawing, in which:

Figure 1 illustrates a part-sectional side elevation of a drawbar pin according to this invention with the retaining plate in one position;

Figure 2 illustrates a plan view of the Figure 1 illustration;

Figure 3 illustrates a side elevation normal to that shown in Figure 1 and with the retaining plate in another position; and

Figure 4 illustrates a part-sectional side elevation locking in the direction of arrow IV in Figure 3.

Referring now to the drawings, the drawbar pin comprises a longitudinally extending body 1 of circular cross-section having a hook-shaped hand grip 1a at one end thereof. The other end of the body is slotted across its diameter so as to form a deep channel there-across and a blind bore 4 extends axially of the shank from the bottom of this channel.

A retaining plate 2 having a longitudinally extending slot is secured in the channel by means of a rivetted pin 5 which passes through the end of the body in a direction normal to the axis thereof and through the slot in the plate, thereby retaining this plate on the end of the body of the drawbar pin whilst permitting free movement of this plate within the confines of the slot.

The slot in the retaining plate extends from a position approximately half-way along the length of this plate to a position adjacent to one end thereof and spaced therefrom by an amount substantially equal to, but not greater than, the distance between the rivetted pin and the bottom of the channel. The distance between the longitudinal edge of the retaining plate which lies adjacent the

bottom of the channel and the adjacent longitudinal edge of the slot therein is also equal to the aforesaid spacing and one corner 2a of this plate adjacent to the said end thereof is radiused. The plate is thereby capable of linear movement normal to the axis of the body of the drawbar pin throughout the length of the slot and rotational movement into alignment with the said axis when the pin is at the said one end of the slot.

In order to facilitate the retention of the plate in a selected position with respect to the body of the drawbar pin, the inner end of the slot is provided with a recess designed to accommodate the rivetted pin passing there-through. Further recesses are also provided at spaced positions along part of the length of this slot, the depth of the recesses decreasing in a direction away from the inner end.

The retaining plate is biased in such a direction as to maintain the slot or recesses therein in tight contact with a rivetted pin by a compression spring 4a located in the aforesaid bore in the body of the drawbar pin and which bears upon a button 3 which in turn maintains contact with the adjacent longitudinal edge of the plate.

In order to further assist the location of the plate in the position in which the recess at the inner end of the slot engages with the pin the plate is provided, on its end remote from the slot, with a stop member 6 which abuts the periphery of the body in this position. This may conveniently take the form of a further plate sweated or otherwise secured to the retaining plate.

In addition, a hand grip 7, in the form of a hole extending through both of these plates, is provided to facilitate the movement of the retaining plate with respect to the body of the drawbar pin.

The drawbar pin together with the retaining plate may conveniently be made from mild steel and the button on which the compression spring bears may conveniently be made of a non-ferrous metal such as brass or some other material resistant to corrosion. The drawbar pin may for example, be about 9" in length and $\frac{3}{4}$ " or $\frac{7}{8}$ " in diameter, and the longitudinal dimension of the retaining plate may be 3 inches, the width of this plate being equal to the diameter of the body of the drawbar pin.

In use, the retaining plate is initially moved into alignment with the body of the drawbar pin and inserted through the eyes of the stays on the vehicle and trailer which are in register with each other. The retaining plate is then moved into the position in which the recess at the inner end of the slot engages with the pin, that is, into a position in which it lies transversely to the axis of the body of the drawbar pin.

The plate is retained in this latter position by the action of the compression spring but

if for any reason the plate should be jerked to an extent such that the pin disengages from the end recess, any transverse movement of the plate will be arrested by reason of the pin engaging with a succeeding one of the further recesses.

WHAT I CLAIM IS:—

1. A vehicle drawbar pin comprising an elongated body having a head at one end, a retaining member secured to the other end and movable into and out of alignment with the body portion, and resilient biasing means tending to hold the retaining member out of alignment with the body portion.

2. A drawbar pin as claimed in claim 1, wherein said head is integral with said body and shaped so as to form a hand grip.

3. A drawbar pin as claimed in claim 1 or claim 2, wherein said retaining member is an elongated plate having a slot therein extending longitudinally of the plate.

4. A vehicle drawbar pin comprising an elongated body having a head at one end and a slotted retaining plate secured to the other end of the body, the retaining plate being movable into a first position in alignment with and depending from, the body, and into a second position transversely of the body, and resilient biasing means tending to hold the retaining plate in the second position.

5. A drawbar pin as claimed in claim 3 or claim 4, wherein the slot extends from the centre of the plate to a position adjacent one end of the plate.

6. A drawbar pin as claimed in any one of claims 3 to 5, wherein the plate is located in a channel or groove formed in said body.

7. A drawbar pin as claimed in any one of claims 3 to 6, wherein the plate is retained in the body by a retaining pin secured to the body and extending through the slot in said plate.

8. A drawbar pin as claimed in claim 7, wherein the resilient biasing means is arranged so as continuously to urge an edge of the slot into engagement with the retaining pin to resist movement of said plate with respect to the body.

9. A drawbar pin as claimed in claim 6 and claim 7, in which the resilient biasing means comprises a compression spring seated in a bore extending into the body from the bottom of the channel or groove and so arranged as continuously to urge an edge of the slot into engagement with the retaining pin to resist movement of said plate with respect to the body.

10. A drawbar pin as claimed in claim 9, wherein said spring carries a button or cap at one end thereof and urges said button or cap into engagement with a side wall of said plate.

11. A drawbar pin as claimed in any one of claims 7 to 10, in which an edge of the slot has a recess to accommodate the retain-

ing pin when the plate is out of alignment with said body and resist movement of the plate transversely of the body.

5 12. A drawbar pin as claimed in claim 11, comprising a plurality of recesses in the edge of the slot, the depth of said recesses decreasing in a direction away from the innermost end of the slot.

10 13. A drawbar pin as claimed in claim 11 or claim 12, comprising a stop member on said plate so located as to abut the body when the retaining plate lies transversely of the body with the retaining pin accommodated in the said recess or the deepest one of said recesses.

15 14. A drawbar pin as claimed in any one of claims 5 to 13, wherein the said one end of the plate has a radiused edge to facilitate movement of said plate into and out of alignment with said body.

20 15. A vehicle drawbar pin comprising a hook-shaped elongated body having a channel or groove formed in that end thereof remote from the hook, a slotted retaining plate located

in said channel and retained therein by a retaining pin extending through the slot transversely of the channel and secured to said body, the retaining plate being movable between a first position in alignment with said body and a second position transversely of said body to permit the drawbar pin to be inserted through, and retained in, aligned apertures in a vehicle drawbar plate, the slot having at least one recess in a wall thereof for accommodating the retaining pin and the plate being resiliently biased in a direction such as continuously to urge the wall of the slot into engagement with said retaining pin to resist relative movement between the plate and the body by extraneous forces.

16. A vehicle drawbar pin substantially as herein described with reference to the accompanying drawing.

MATHISEN & MACARA,
Chartered Patent Agents,
13, Dean Street, London, W.1,
Agents for the Applicant.

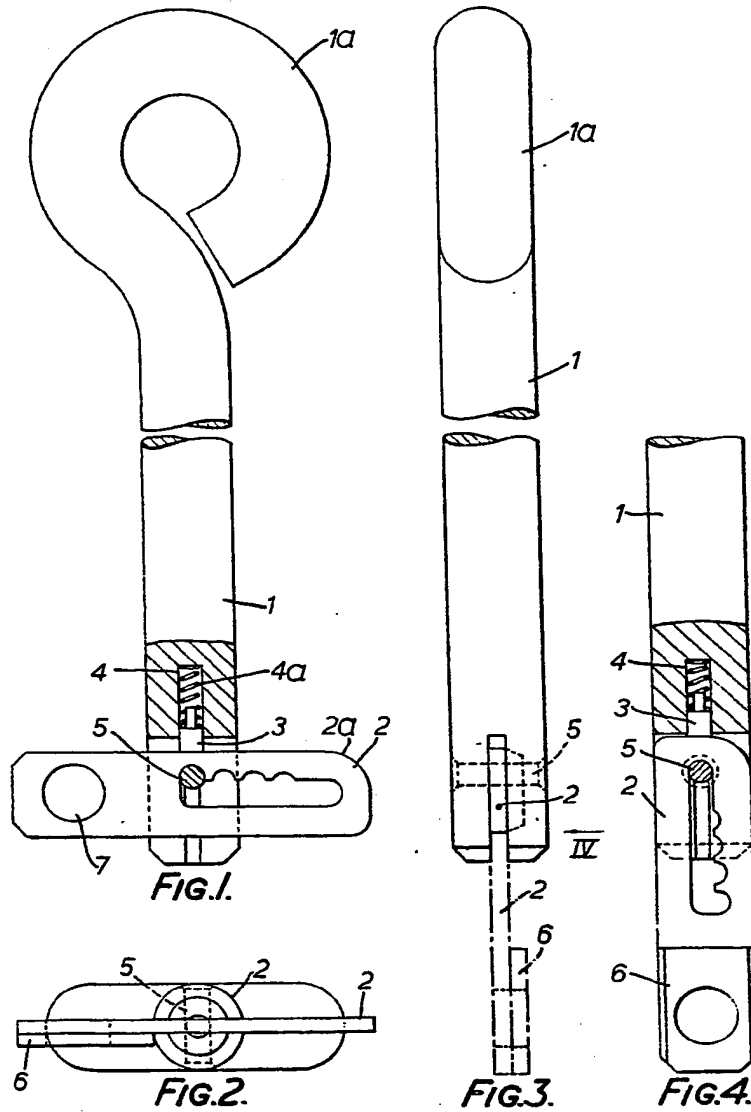
Leamington Spa: Printed for Her Majesty's Stationery Office, by the Courier Press
(Leamington) Ltd.—1965. Published by The Patent Office, 25 Southampton Buildings,
London, W.C.2, from which copies may be obtained.

1011329

COMPLETE SPECIFICATION

1 SHEET

This drawing is a reproduction of
the Original on a reduced scale



BEST AVAILABLE COPY